

POW Commercial Thinning Study

Sale #08055

August 1, 2008

Project Report
And
Cost Development

2420 Appraisals

Craig & Thorne Bay Ranger Districts

POW Commercial Thinning Study

I. Introduction

A. Planning, History and NEPA Document

A scoping notice for the POW Commercial Thinning Study was published on Wednesday, May 9, 2007. No comments were received during the comment period for this action.

The POW CT Study project was later cleared in three Categorical Exclusions. The decision Memos have been signed by the District Rangers from Craig and Thorne Bay on June 17, 2008.

II. Description of Timber Sale

A. Location

Tongass National Forest, Craig and Thorne Bay Ranger Districts, are proposing to thin up to 70 acres of young-growth forests at three locations on Prince of Wales Island. Study sites are located in the Maybeso Experimental Forest outside Hollis, Alaska (T73S, R84E, sect. 29,30,31,32), the lower Harris River near the Harris River Hiking Trail 5 miles west of Hollis, (T74S, R83E, sect. 9,10,15,16), and along Tuxekan Narrows, about 2 miles northwest of Naukati, Alaska (T69S, R79E, sect. 11,12, 13 & 14).

The Naukati study site is located within a Timber Management Land Use Designation (LUD). The Maybeso study site is located within an Experimental Forest LUD. The Harris River study site is located within a Modified Landscape LUD.

The project is located on the Thorne Bay and Craig Ranger Districts.

B. Size of Sale and Cutting Units

The project area located in three separate replicate locations each containing five units of different treatment prescriptions made up of approximately 5 acre each. The areas to be studied encompass approximately 84 acres with approximately 66 acres of active treatment. Approximately 18 acres will be untreated control areas.

Planned Harvest Units

Unit #	Acres
Harris 1	5
Harris 2	7
Harris 4	5
Harris 5	3
Maybeso 1	7
Maybeso 2	6
Maybeso 3	9
Maybeso 4	4
Naukati 2	5
Naukati 3	5
Naukati 4	5
Naukati 5	5
Total	66

C. Timber Specifics**1. Timber Cruise**

The volume estimates for this sale were derived from a variable plot cruise method. The sampling error for this sale is 13.06 %. The cruise was calculated in MBF using FS Cruiser. The minimum tree and piece specification is 9.0 inches DBH, containing a 12-foot long log, 6-inch top diameter minimum log.

2. Volumes and Grade @ 6" Utilization**Volume in MBF by Species**

Volume	Sitka Spruce	Hemlock	Alaska-Cedar	Western Red cedar	Total
Sawlog Volume	924	278	0	0	1,202
Percentage	77%	23 %			100%

Sawlog Grade Distribution in MBF (%)

Species	P/S	1	6	2	3
Sitka Spruce	0.00	0	0	38.21	61.79
Western Hemlock	0.00	0	0	6.46	93.54

3. Grade Distribution by Diameter Group and Species

LOG SORT DESCRIPTION	Species	Log Grade	LOG SED	Gross Removed MBF	Net Removed	Utility
AYC #PS sawlog MBF net	42	0		0	0	0
AYC #1sawlog MBF net	42	1		0	0	0
AYC SM sawlog MBF net	42	6		0	0	0
AYC #2 sawlog MBF net	42	2		0	0	0
AYC #3 sawlog MBF net	42	3		0	0	0
H 1saw 24+ SED	263	1	24.0+	0	0	0
H 2saw 15_0 thru 17_9 SED	263	2	15.0 thru 17.9	11.902	11.902	0
H 2saw 18_0 thru 23_9 SED	263	2	18.0 thru 23.9	0	0	0
H 2saw 24+ SED	263	2	24.0+	0	0	0
H 3saw greater than 14_9 SED	263	3	greater than 14.9	30.206	17.488	0
H Between 12_0 and 14_9 SED	263	2 or 3	between 12.0 and 14.9	43.311	33.557	0
H Between 8_0 and 11_9 SED	263	3	between 8.0 and 11.9	137.237	127.698	0
H less than 8 SED	263	3	less than 8.0	92.164	87.567	0
H PSsaw 24+ SED	263	0	24.0+	0	0	0
H SMSaw 16_0 thru 23_9 SED	263	6	16.0 thru 23.9	0	0	0
H SMSaw 24+ SED	263	6	24.0+	0	0	0
SS 1saw 24+ SED	98	1	24.0+	0	0	0
SS 2saw 15_0 thru 17_9 SED	98	2	15.0 thru 17.9	153.785	152.957	0
SS 2saw 18_0 thru 23_9 SED	98	2	18.0 thru 23.9	53.299	53.299	0
SS 2saw 24+ SED	98	2	24.0+	0	0	0
SS 3saw greater than 14_9 SED	98	3	greater than 14.9	14.348	14.348	0
SS less than 15 SED	98	2 or 3	less than 15.0	711.484	703.921	0
SS PSsaw 30+ SED	98	0	30.0+	0	0	0
SS SMSaw 16_0 thru 23_9 SED	98	6	16.0 thru 23.9	0	0	0
SS SMSaw 24+ SED	98	6	24+	0	0	0
WRC all diam & grades	242	1 or 2 or 3	greater than 5.9	0	0	0
Total				1247.736	1202.737	0

4. Sale Characteristics

Sale Characteristics (MBF)	
32 ft. Logs/MBF, gross =	7.48
Average Gross Volume/Acre =	20.80
% Woods Defect =	5.32
% Scaling Defect =	3.61
Weighted Average DBH =	14.90"

III. Sale Management Aspects

A. Operating Period.

The POW Commercial Thinning Study is planned for operations to be completed in two normal operating seasons. To preserve the study data integrity an individual replicate (Harris, Maybeso or Naukati) may not be logged over two operating seasons. The normal operating season runs from May 1st through October 31st.

Termination date will be **October 31, 2010.**

B. Sale Type

This is an **Integrated Resource Service Contract (IRSC) – Commercial Services.** Measurement has been done before felling

C. Appraisal Point

This sale has been appraised for haul to Klawock, Alaska. The weighted average haul distance for the three study areas is 28 miles.

D. Advertised Rates. (Value of Timber)

The POW Commercial Thinning Study was appraised using the R-10 Residual Value Appraisal method with 3Q2007 rates. This valuation resulted in a deficit of \$42,701.00, therefore the value of the timber in the project is the assigned Region 10 Base Rate values. The total value of the included timber is **\$11,644.00.**

Rates and Conversions of Volume by Species

Species	Estimated Volume MBF	Base Rates MBF	Advertised Rates MBF
Hemlock Sawlogs	278	\$2.00	\$2.00
Sitka Spruce Sawlogs	924	\$12.00	\$12.00
TOTALS:	1202		\$11,644.00

E. Performance Bond: See Integrated Resource Service Contract (IRSC)

F. Bid Guarantee: See Integrated Resource Service Contract (IRSC)

G. Knutson-Vandenberg (KV).

There is no need to monitor and assure regeneration after harvest. No deposits for required reforestation work will be collected.

IV. Silvicultural Aspects

The harvest unit prescriptions in this sale are identified as a commercial thinning (code 4220) via individual tree marking. Regeneration is not an objective and no KV plan is required. Refer to the individual unit prescriptions for more detailed information on the silvicultural aspects of this sale.

V. Logging Systems

This sale is appraised for ground-based systems only. Refer to the **Planned Harvest Systems** table for details.

Planned Harvest Systems

Unit #	Logging System**	Acres	Suspension Requirements
Harris #1	Shovel	4.5	None
#2	Shovel	6.9	“
#3 No Cut	N/A	5.8	“
#4	Shovel	5.3	“
#5	Shovel	3.0	“
Maybeso # 1	Shovel	6.9	“
#2	Shovel	6.4	“
#3	Shovel	9.2	“
#4	Shovel	3.9	“
#5 No Cut	N/A	6.4	“
Naukati #1 No Cut	N/A	5.3	“
#2	Shovel	4.8	“
#3	Shovel	5.5	“
#4	Shovel	5.0	“
#5	Shovel	5.2	“

	Total Harvest Acres	66.6*	
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*These acres represent harvest volume acres only, Control "NO CUT" Unit acres are not included. In addition, the Cruise file harvest acres total 60 acres, this volume difference does not effect the total volume used in the valuation of this sale.

**** Only ground-based systems will be considered in proposals.**

VI. Summary of Timber Subject to Agreement, N/A

VII. Harvest Designations - Tree Marking

All external unit boundaries are marked with Orange Paint and Orange Tags.

Unit #	Harvest Designation
Harris 1,5, Maybeso 1, 2, Naukati 3, 5	Cut Tree Mark (Blue Paint)
Harris 2, 4, Maybeso 3, 4 Naukati 2, 4	Leave Tree Mark (Orange Paint)
ROW	Logs from clearing and grubbing operations will be decked along spur roads, outside of cutting units and sorted by conifers and deciduous species for potential fire-wood or bio-energy proposals (see part D. below)

VIII. Transportation Facilities

A. Log Transfer Facility (LTF)

This project is appraised for haul to the Viking Mill in Klawock, therefore rafting or barging logs to another location is not considered.

B. Temporary Roads

Costs for the construction, and re-construction of temporary roads has been appraised at **\$16,016.88.**

Costs and work specific to each Replicate is available at the Craig and Thorne Bay Ranger Districts.

Road segment #*	Armored dips (#)	cmps or bridges (#)	Clearing & Grubbing (feet)	Chip depth (feet)	Rock depth (feet)	Grading of organics layer	Ditching
5	4		1928	2	Minor	X	X
6			729			X	
7			1134	Optional 2	2'		
Totals							
Landing Construction on	# of 1/4 ac.(10890 ft ²) Landings appraised for	1					
	# of 1/8 ac.(5445 ft ²) Landings appraised for	3					

With prior approval, the decking of unit volume is an option along all listed spurs and on road 2060131 in the Naukati replicate.

* Spur segment #s appear on the unit plan maps.

C. Road Closures

Upon completion of log hauling activities, spur segment # 5 in the Maybeso would be closed via gate (only rolling dips are planned for installation). Spur segment #4 at the Harris would be closed by pulling the drainage structure, water barring and blocking the road (according to state requirements). Naukati unit spur segment # 7 would have all drainage structures pulled with a waterbar placed at the beginning of the spur at approximately 0.05 mile.

D. Right of Way (ROW)

ROW volumes resulting from the clearing and grubbing of planned spur segments was not figured in this evaluation. ROW volume will be decked for payment or disposal to be determined at a later date. Bid proposals which include options for its disposal will be considered, particularly those considering bio-energy or firewood options.

In the Maybeso replicate, ROW volume produced from spur segments #5 and 6, should be decked on the north side of spur segment #5, outside of the study units. Separate sorts should include conifers and deciduous species. Volume will be separated from the study volume.

In the Naukati replicate, ROW volume collected along spur segment #7, inside unit 1 and outside the other units, will be decked separately from unit volume and placed to the south of the 2060131 road.

IX. Other Land Management Aspects and Special Considerations

NA

X. Mobilization and Camp Development:

Based on the recent past timber sale camp activity has decreased in its use on the forest. The norm has changed to commuting to and from the work site from one of the surrounding communities rather than establishing an onsite camp; therefore no camp costs were included in this appraisal.

XI. Summary of Constructed Costs

A. Pre and Post-haul Road Maintenance.

Pre and Post haul maintenance requirements and associated costs can be found in the appendices of this report.

B. Surface Rock Replacement and Road Maintenance Deposits

Due to the small volume associated with the Naukati Replicate, Surface Rock Replacement will not be collected.

C. Road Maintenance

Purchaser will be required to perform road maintenance commensurate with use.

D. Slash Disposal

All slash materials shall be cleaned off or deposited of from the road prism, road ditches, landings and stream courses per Forest Service direction. **Optional proposals for use of slash and sub-merchantable material for firewood or bio-energy will be considered.**

E. Hogged fuel may be available at local mills. Hogged fuel roading material would be considered for spur segments #s 5 and 7 and landings.

XII. UNIT SUMMARIES:

Harris Unit 1 Narrative

Implemented acres: 5

The entire unit is designed for ground-based yarding. Volume must be yarded to a landing outside of the unit to the east where truck haul would occur via short spur to the Hollis highway. The landing and spur are on State of Alaska land. No streams are present in the unit. A steep backline to the unit may cause special soil protection measures or soil rehabilitation where detrimental soil damage has occurred. The silvicultural activity assigned to this unit is defined as commercial thinning with individual tree selection (ITS). The timber sale designation is Cut Tree Marking (CTM) with cut trees marked with blue paint. Boundaries are marked with orange paint and orange tags. The marking objective is for crown thinning (thinning of codominants). Approximately 105 trees per acre equal to or greater than 9.0" DBH should be left with approximately 20 foot spacing.

Commercial Thinning (ITS) per the Silvicultural Prescription

Harris Unit 2 Narrative

Implemented acres: 7

The entire unit is designed for ground-based yarding. Volume must be yarded to a large landing in the western corner of the unit where spur segments 1 & 2 meet. Segment 1 is an old existing spur road, recently upgraded for accommodating truck haul to the Hollis highway. Spur road segment #2, also an existing old spur road recently upgraded, will serve as a skid road for a portion of unit 2 east of the landing as well as other units to the east and south. There are no fish streams present in the unit. The silvicultural activity is defined as strip cuts (even-aged management – all trees equal to or greater than 3" dbh will be cut) in a herringbone pattern (45 degree angles) with individual tree selection (ITS) between the strips. The timber sale designation is Leave Tree Marking (LTM) with leave trees marked with orange paint. Boundaries are marked with orange paint and orange tags. The marking objective is to simulate cable yarding. However, ground-based equipment only will be allowed. Strip cuts will be 25' wide and roughly 50' leave strips with ITS. Cut strips could serve as skid roads.

Strip cuts (even-aged management) with ITS in leave strips per the Silvicultural Prescription

Harris Unit 4 Narrative

Implemented acres: 5

The entire unit is designed for ground-based yarding. Volume must be yarded to a large landing in the western corner of the unit 2. Logs could be decked on the spur but access will be required to unit 5. Spur road segment #2 will also serve as a skid road for a portion of unit 5 to the east. The silvicultural activity assigned to this unit is defined as commercial thinning with individual tree selection (ITS). The timber sale designation is Leave Tree Marking (LTM) with leave trees marked with orange paint. Boundaries are marked with orange paint and orange tags. The marking objective is for low thinning (thinning of the suppressed, intermediate and codominants). Trees equal to or greater than 3.0" DBH and less than 9.0" DBH shall be felled. On the average this unit contains approximately 26 trees per

acre in the 3-8" DBH class. Additionally, approximately 85 trees per acre equal to or greater than 9.0" DBH should be left with approximately 23 foot spacing.

Commercial Thinning (ITS) per the Silvicultural Prescription

Harris Unit 5 Narrative

Implemented acres: 3

The entire unit is designed for ground-based yarding. Volume must be yarded to the landing in unit 2 via the skid road segments 2 & 3. Then hauled to the Hollis highway. No streams are present in the unit. However, a class I stream, bordering the western boundary, can be forded at the crossing structure on the spur outside the western corner of the unit. The silvicultural activity assigned to this unit is defined as commercial thinning with individual tree selection (ITS). The timber sale designation is Cut Tree Marking (CTM) with cut trees marked with blue paint. Boundaries are marked with orange paint and orange tags. The marking objective is for thinning of the dominant trees. Approximately 221 trees per acre equal to or greater than 9.0" DBH should be left with approximately 14 foot spacing.

Commercial Thinning (ITS) per the Silvicultural Prescription

Maybeso Unit 1 Narrative

Implemented acres: 7

The entire unit is designed for ground-based yarding. Volume may be yarded to a landing on the 300 rd or decking may occur along spur segments 5 or 6. Haul would then occur to the Hollis highway. No streams are present in the unit. However, several rolling dips, armored with rock, will need to be constructed along spur segment 5 adjacent to units 2 & 3. Spur segment 5 requires clearing and grubbing and ditching. Grading off the organic layer prior to chip capping (estimated 2' depth required) or skidding may reduce mud accumulation. Protected research plots to the east would prevent any yarding of materials to the spur to the east. The silvicultural activity assigned to this unit is defined as commercial thinning with individual tree selection (ITS). The timber sale designation is Cut Tree Marking (CTM) with cut trees marked with blue paint. Boundaries are marked with orange paint and orange tags. The marking objective is for crown thinning (thinning of codominants). Approximately 147 trees per acre equal to or greater than 9.0" DBH should be left with approximately 17 foot spacing.

Commercial Thinning (ITS) per the Silvicultural Prescription

Maybeso Unit 2 Narrative

Implemented acres: 6

The entire unit is designed for ground-based yarding. Volume may be yarded to the landing at the end of spur 6, decked on the spur or decked along spur segment 5. Segment 6 is an old existing spur road to be tested without any additional capping of wood chips or shot-rock. It will be used only for skidding purposes. Grading off the organic layer prior to skidding may reduce mud accumulation. Volume from there will then hauled to the Hollis highway. No fish streams are present in the unit. However, several rolling dips, armored with rock, will need to be constructed along spur segment 5 adjacent to units 2 & 3. Spur segment 5 requires clearing and grubbing and ditching. Grading off the organic layer prior to chip capping (estimated 2' depth required) or skidding may reduce mud accumulation. The silvicultural activity assigned to this unit is defined as commercial thinning with individual tree selection (ITS). The timber sale designation is Cut Tree Marking (CTM) with cut trees marked with blue paint. Boundaries

are marked with orange paint and orange tags. The marking objective is for thinning of the dominant trees. Approximately 254 trees per acre equal to or greater than 9.0" DBH should be left with approximately 13 foot spacing.

Commercial Thinning (ITS) per the Silvicultural Prescription

Maybeso Unit 3 Narrative

Implemented acres: 9

The entire unit is designed for ground-based yarding. Volume must be yarded to spur segment 5. a large landing in the western corner of the unit 2. Logs could be decked on the spur. No fish streams are present in the unit. However, several rolling dips, armored with rock, will need to be constructed along spur segment 5 adjacent to units 2 & 3. Wet areas within the unit should be avoided or may require mitigation measures for protection from detrimental soil disturbance. Spur segment 5 requires clearing and grubbing and ditching. Grading off the organic layer prior to chip capping (estimated 2' depth required) or skidding may reduce mud accumulation. The silvicultural activity assigned to this unit is defined as commercial thinning with individual tree selection (ITS). The timber sale designation is Leave Tree Marking (LTM) with leave trees marked with orange paint. Boundaries are marked with orange paint and orange tags. The marking objective is for low thinning (thinning of the suppressed, intermediate and codominants). Trees equal to or greater than 3.0" DBH and less than 9.0" DBH shall be felled. On the average this unit contains approximately 67 trees per acre in the 3-8" DBH class. Additionally, approximately 63 trees per acre equal to or greater than 9.0" DBH should be left with approximately 26 foot spacing.

Commercial Thinning (ITS) per the Silvicultural Prescription

Maybeso Unit 4 Narrative

Implemented acres: 4

The entire unit is designed for ground-based yarding. Volume must be yarded to a landing at the end of spur road segment 6. Volume may be decked on this spur. Segment 6 is an old existing spur road to be tested without any additional capping of wood chips or shot-rock. It will be used only for skidding purposes. Grading off the organic layer prior to skidding may reduce mud accumulation. There are no fish streams present in the unit. Protected research plots to the north and east would prevent any yarding of materials to the spur to the east. The silvicultural activity is defined as strip cuts (even-aged management – all trees equal to or greater than 3" dbh will be cut) in a herringbone pattern (45 degree angles) with individual tree selection (ITS) between the strips. The timber sale designation is Leave Tree Marking (LTM) with leave trees marked with orange paint. Boundaries are marked with orange paint and orange tags. The marking objective is to simulate cable yarding. However, ground-based equipment only will be allowed. Strip cuts will be 25' wide and roughly 50' leave strips with ITS. Cut strips could serve as skid roads.

Strip cuts (even-aged management) with (ITS) in leave strips per the Silvicultural Prescription

Naukati Unit 2 Narrative

Implemented acres: 5

The entire unit is designed for ground-based yarding. Volume must be yarded to a landing on the main road # 2060131 via spur segment 9. Segment 8 is a non-existent optional skid trail that would be about

the least impacting option for yarding through unit 1 if spur 9 is too steep. Unit 1 is a control unit and care must be taken to not disturb study plots in this unit. The skid trail needs to be of minimal width and as far south as possible in Unit 1. Volume may also be decked on the main road. There are no fish streams present in the unit. Thin soiled ridge-tops characteristic of karst and epi-karst should be avoided. The silvicultural activity is defined as strip cuts (even-aged management – all trees equal to or greater than 3" dbh will be cut) in a herringbone pattern (45 degree angles) with individual tree selection (ITS) between the strips. The timber sale designation is Leave Tree Marking (LTM) with leave trees marked with orange paint. Boundaries are marked with orange paint and orange tags. The marking objective is to simulate cable yarding. However, ground-based equipment only will be allowed. Strip cuts will be 25' wide and roughly 50' leave strips with ITS. Cut strips could serve as skid roads.

Strip cuts (even-aged management) with (ITS) in leave strips per the Silvicultural Prescription

Naukati Unit 3 Narrative

Implemented acres: 5

The entire unit is designed for ground-based yarding. Volume may be yarded to the landing at the beginning of spur 7 on the main road # 2060131. Spur segment 7 is an existing corduroy spur which will require pungeon or matting and capping with wood chips (estimated 2' depth) and used as the main skid/forwarder trail for units 3, 4 and 5. No fish streams are present in the unit. Thin soiled ridge-tops characteristic of karst and epi-karst formations and wet bottoms should be avoided or protected from yarding activities. The silvicultural activity assigned to this unit is defined as commercial thinning with individual tree selection (ITS). The timber sale designation is Cut Tree Marking (CTM) with cut trees marked with blue paint. Boundaries are marked with orange paint and orange tags. The marking objective is for thinning of the dominant trees. Approximately 255 trees per acre equal to or greater than 9.0" DBH should be left with approximately 13 foot spacing

Commercial Thinning (ITS) per the Silvicultural Prescription

Naukati Unit 4 Narrative

Implemented acres: 5

The entire unit is designed for ground-based yarding. Volume must be yarded to spur segment 7 and skidded/forwarded to a landing at the beginning of the spur. No fish streams are present in the unit. Thin soiled ridge-tops characteristic of karst and epi-karst formations and wet bottoms should be avoided or protected from yarding activities. Steep areas/backlines may require mitigation measures for protection from detrimental soil disturbance. The silvicultural activity assigned to this unit is defined as commercial thinning with individual tree selection (ITS). The timber sale designation is Leave Tree Marking (LTM) with leave trees marked with orange paint. Boundaries are marked with orange paint and orange tags. The marking objective is for low thinning (thinning of the suppressed, intermediate and codominants). Trees equal to or greater than 3.0" DBH and less than 9.0" DBH shall be felled. On the average this unit contains approximately 52 trees per acre in the 3-8" DBH class. Additionally, approximately 61 trees per acre equal to or greater than 9.0" DBH should be left with approximately 27 foot spacing.

Commercial Thinning (ITS) per the Silvicultural Prescription

Naukati Unit 5 Narrative

Implemented acres: 5

The entire unit is designed for ground-based yarding. Volume must be yarded to spur segment 7 and skidded/forwarded to a landing at the beginning of the spur. No fish streams are present in the unit. Thin soiled ridge-tops characteristic of karst and epi-karst formations and wet bottoms will require avoidance or protection from yarding activities. Steep areas/backlines may require mitigation measures for protection from detrimental soil disturbance. The silvicultural activity assigned to this unit is defined as commercial thinning with individual tree selection (ITS). The timber sale designation is Cut Tree Marking (CTM) with cut trees marked with blue paint. Boundaries are marked with orange paint and orange tags. The marking objective is for crown thinning (thinning of codominants). Approximately 108 trees per acre equal to or greater than 9.0" DBH should be left with approximately 20 foot spacing.

Commercial Thinning (ITS) per the Silvicultural Prescription

XIII. Quality Control Certification

The District Ranger certifies that sale preparation and layout meet the specifications of the environmental document authorizing this sale, and that:

- a. Silvicultural treatments, prescribed by a qualified silviculturist, are appropriate to the management objectives of the sale.
- b. Designated trees and harvest units represent proper silvicultural prescriptions.
- c. Considering quality land management objectives, the most economical logging systems were chosen.
- d. Resources other than timber were considered in the sale layout, and the sale contract. Adverse effects were avoided by careful sale layout.
- e. Fire protection, prescriptions, erosion control, and other phases of environmental protection were included in the field layout, and in the contract.
- f. The timber cruise for this sale meets all regional standards and guidelines.

Prepared by: _____
 Bob Moniz Gary Lawton
 Appraisal Specialist District Silviculturist

Date: _____

Approved by: _____
 Greg Killinger
 Craig District Ranger

Date: _____

Approved by: _____
 Jason Anderson
 Thorne Bay District Ranger

Date: _____

Appendix A

Constructed Road Costs
Appraisal Inputs
BY Quarterly Selling Values and Manufacturing Costs
Logging Calculations
2400-17 RV Appraisal of Record
Optional considerations

DRAFT

POW CT ROADS PACKAGE

Maybeso Roads

Rd 2024300 – 0.9 miles of existing road from the Hollis highway to the jct. of temp roads. Only needs maintenance of road commensurate with use.

Temp roads – 0.50 miles of existing temp road that can be used with the following minimal work:

Spot Rock (or wood chips/hogged fuel) 500Cy @ \$11.72/cy with Haul = \$5860

Rock Drain dips -4each @ \$250/each = \$1000

Remove Earth Barrier m.p.0.00 = \$ 250

Install Gate = \$3000

Total \$10,110

Harris Roads/Units

No road work... all accomplished through force account work.

Naukati Replicate

Prehaul Maintenance – Rd 2060131 - 0.56 miles. Shot rock 80 cy yards of rock from pit on 2060100 rd. \$11.72/cy including haul. = \$937.60.

- Note. If sale/contract sells FS will schedule brushing of road if needed.

2060100 – appraise for maintenance commensurate with use.

2060000 – Need to collect for maintenance commensurate with use whichever way haul is, to LTF or to Highway at Coffman Jct.

SRR – such a small amount of timber its not worth the effort.

TEMP road - 1134 feet over existing puncheon. 1 foot lift of rock, for skidder trail only, 12 feet wide. 504 cy of rock times \$11.72/cy with haul = \$5906.88.

List of unique items to be considered after award for inclusion into the contractor's proposed "detailed logging plan" (not a complete list)

- Skid trail locations
- Soil rehabilitation plan
- Rub trees
- Type of ground-based yarding/skidding systems
- Decking and landings
- Slash plans for soil protection, slash removal and/or slash bio-energy options
- Progression of logging
- Wood chip/Hogged fuel options and staging area(s) for consideration in Maybeso replicate spurs and landings and Harris replicate landing(s).
- Hogged fuel may be available for road building from local mills.
- Barging options
- All trees are required to be felled within cut strips in units Harris #2, Maybeso #4 and Naukati #2
- Trees equal to or greater than 3.0" DBH and less than 9.0" DBH shall be felled in Unit #4 in the Harris replicate, Unit #3 in the Maybeso replicate and Unit #4 in the Naukati replicate.
- Optional plan for wood chip/hogged fuel (barging or hauling) vs spur road rock recovery for Naukati replicate roading needs
- Optional selling of logs to the Harris River restoration project
- Firewood availability for commercial or private
- Alder selling (limited time after harvest before staining occurs)
- Use of ROW logs for bio-energy/firewood